SHITOV, V.V., inzh.

Study of the properties of high and low-pressure polyethylene mixtures. Elektrotekhnika 34 no.12:13-15 D 63. (MIRA 17:1)

SHITOV, V.V., inzh.

Causes of the deformation of the internal conductor of a cable with solid polyethylene insulation. Elektrotekhnika 35 no.10: 40-41 O '64. (MIRA 17:11)

CHIRKOV, V.P.; SHITOV, Ye.V. [deceased]

Method of visible recording with a magnetoelectric oscillograph. Priborostroenie no.6:9-10 Je '64. (MIRA 18:3)

SHITOV, E.L., BELOUSOV, A.S., POPOVA, V.M., SEMASHKO, N.G., TAMM, Ye.I.
VEKSLER, V.I., YAGUDINA, F.R.

"Photoproduction of Pions Complex Nuclei," paper presented at CERN Symposium, 1956, appearing in Nuclear Instruments, No. 1, pp. 21-30, 1957

"Photoproduction of π^0-Mesons on Compound Nuclei," Belousov, Ye. I. Tamm, and Ye. V. Shitov, Doklady Akademii Nauk SSSR, Vol 112, No 6, Feb 57, pp 1017-1019

The production of π^0-mesons on nuclei under the influence of gamma rays was studied to determine whether π-mesons are produced throughout the nucleus or only on the surface.

The dependence of π^0-meson emission on the atomic number of various bombarded nuclei was measured. The experiment was carried out on the synchrotron of the Physics Institute of the Academy of Sciences USSR. Close adherence to the $A^{2/3}$ law and independence of gamma ray energy was noted in the cross section-atomic number curve.

The conclusion is drawn that mesons are formed only on the surface of nuclei.

Sum No 1451

SOV/49-59-1-11/23

AUTHORS: Iokhel'son, S. V. and Shitov, Ye. V.

TITLE: Radiometric Analysis of Rocks Using Their Gamma-Spectra (Radiometricheskiy analiz gornykh porod po spektru gamma-izlucheniya)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Seriya Geofizicheskaya, 1959, Nr 1, pp 96-104 + 1 plate (USSR)

ABSTRACT: The paper describes a method of quantitative radiometric analysis of rocks and ores using their gamma-spectra. The spectra were examined by means of a"multi-channel" differential gamma-spectrometer described in the present paper. Some results on the analysis of rocks for uranium, radium and thorium are given. The gamma-spectra of samples were obtained using the differential spectrometer with a cathode-ray oscillograph. The spectrometer consisted of a receiver, an analysing circuit, a counting circuit and a photographic recorder. A NaI(Tl) crystal was used as the receiver of gamma-rays. It was mounted on a photo-multiplier FEU-29. Pulses from the photo-multiplier were amplified and fed to a differential amplitude analyser. The circuit of the analyser and the various time intervals involved are

Card 1/6

SOV/49-59-1-11/23

Radiometric Analysis of Rocks Using Their Gamma-Spectra

shown in Fig.1 in schematic form. Full details of the analyser circuit are shown in Fig.2. A voltage pulse from the amplifier is transformed into a Π-shaped pulse of 60 μsec duration. This transformed pulse is fed to one of the horizontal plates of the cathode-ray oscillograph. The other horizontal plate receives an inverted Π-shaped pulse from a phase invertor. Simultaneously the vertical plates are subjected to an exponential scanning voltage and the modulator grid of the oscillograph received a square pulse. The last two pulses are of 40 μsec duration and are delayed with respect to the input pulse by about 10 μsec. Duration of all these pulses is determined by three flip-flop oscillators connected in series. In this way each pulse coming from the amplifier is transformed into a line on the screen of the cathode-ray oscillograph. Displacement of this line along the horizontal is proportional to the amplitude of the input pulse and its height is determined by the scan amplitude. The c.r.o. screen is photographed on a film. The density of blackening of the film is determined by the number of recorded pulses. The

Card 2/6

photographic records so obtained (Fig.3) give the gamma-ray spectra after appropriate analysis with a microphotometer. Calibration of the spectrometer with isotopes emitting gamma-rays of various energies show that the instrument is linear at energies from 0.06 to 2.6 MeV. The resolving power of the spectrometer was not less than 13-14% for gamma-rays from Cs^{137}. The energy positions of gamma-ray maxima of UX_1, RaC, ThB and Th (C" + D) were stable within 5-7% in 1 1/2 to 2 hrs. The analyser described is equivalent in its resolution to that of a 100-channel differential analyser based on dicrete counting. The analyser described makes it possible to measure simultaneously the gamma-spectrum throughout the whole energy interval and this shortens considerably the time required for measurements and avoids errors due to drift in amplification by photomultipliers and in the electronic part in general. The low threshold of sensitivity (0.03 MeV) of the spectrometer described enabled the authors to measure and resolve the lines at 0.064 and 0.093 MeV of UX_1. When gamma-rays pass through rocks their original spectrum is altered by absorption and scattering. The

recorded spectrum depends on the primary emission, on the composition and density of the rock, geometry of the experiment and the spectral characteristics of the receiver used. In simultaneous recording of radiation of several radio-active elements, the amplitude (counting rate) for any photo-peak is determined by the total intensity of the primary radiation (E_0) of the particular element and the scattered radiation of all the other elements present. The following lines were used for identification of U, Ra and Th: E_1 = 0.093 MeV (UX_1), E_2 = 0.350 MeV (RaB); E_3 = 0.238 MeV (ThB). These lines are shown with the rest of the gamma-ray spectra of several samples in Figs. (5) and (6). Concentrations of uranium, radium and thorium were determined from a system of linear equations:

$$\begin{aligned} \varepsilon_U &= a_{11}\alpha_U + a_{12}\alpha_{Ra} + a_{13}\alpha_{Th}, \\ \varepsilon_{Ra} &= a_{21}\alpha_U + a_{22}\alpha_{Ra} + a_{23}\alpha_{Th}, \\ \varepsilon_{Th} &= a_{31}\alpha_U = a_{32}\alpha_{Ra} + a_{33}\alpha_{Th} \end{aligned} \qquad (4)$$

SOV/49-59-1-11/23

Radiometric Analysis of Rocks Using Their Gamma-Spectra

where g_U; g_{Ra}; g_{Th} are the amplitudes of photo-peaks at energies E_1, E_2 and E_3 expressed in terms of a standard containing unit concentrations of all the three elements; α_U, α_{Ra}, α_{Th} are concentrations of uranium, radium and thorium in a sample; a_{11}, a_{12}, a_{13} are the proportions of gamma-rays from uranium, radium and thorium respectively recorded in the uranium photo-peak of the standard; a_{21}, a_{22}; a_{23}, a_{31}, a_{32}, a_{33} are similar proportions for the radium and thorium photo-peaks. Fig.7 is a nomogram which can be used to speed up the concentration calculations. The results obtained by the method described, together with the results obtained by chemical and radio-chemical means, are given in Tables 1 and 2. These results are given for a total of 21 ore samples, each of which contains uranium, radium and thorium. Inspection of Tables 1 and 2 shows that the relative errors in radiometric determination of uranium, radium and thorium, using their gamma-ray spectra, do not as a rule exceed 8-12% and only rarely reach 20%. The

Card 5/6

SOV/49-59-1-11/23

Radiometric Analysis of Rocks Using Their Gamma-Spectra

limits of sensitivity of gamma-ray method of analysis of radio-active ores were 0.01% for U, 0.005% for Th and 2×10^{-11} g/g of ore for Ra.

Acknowledgments are made to I. M. Nazarov for his advice.

There are 7 figures, 2 tables and 6 references, 2 of which are Soviet, 2 English, 1 German and one translation from English into Russian.

ASSOCIATION: Akademiya nauk SSSR Institut prikladnoy geofiziki (Ac.Sc., USSR, Applied Geophysics Institute)

SUBMITTED: December 3, 1957

Card 6/6

SHITOV, Ye.Ye.

Potentiation of magnesan effect with aminazine and diphenylacetic acid derivatives. Farm. i toks. 27 no.3:272-274 My-Je '64. (MIRA 18:4)

1. Katedra farmakologii (zav. - prof. A.A.Gavrilyuk) L'vovskogo meditsinskogo instituta.

SHITOV, Ye.Ye.

Effect of magnesium sulfate in combination with tranquilizers on the bioelectric and cholinesterase activity of the brain. Farm. i toks. 28 no.1:13-17 Ja-F '65. (MIRA 18:12)

1. Kafedra farmakologii (zav. - prof. A.A.Gavrilyuk) L'vovskogo meditsinskogo instituta. Submitted November 21, 1963.

36935
S/081/62/000/007/029/033
B168/B101

15.8610
5.3830

AUTHORS: Vinogradov, P. A., Sal'nikova, K. S., Mironov, G. S., Mironova, N. M., Shitova, A. A.

TITLE: Utilization of the reducing properties of ammonia in the creation of oxidation-reduction systems for polymerization in aqueous emulsions

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 7, 1962, 626, abstract 7P117 (Uch. zap. Yaroslavsk. tekhnol. in-ta, v. 6, 1961, 83-90)

TEXT: A new oxidation-reduction (redox) system for initiating the process of polymerization at low temperatures; is based on the use of hydroperoxide of isopropylbenzene, ammonia, glucose and sodium pyrophosphate. Study of the influence of the individual components of the redox system on the rate of polymerization revealed that an increase in the quantity of each of the components was regularly accompanied by a rise in the polymerization rate, which reached its maximum under specific conditions. The influence of the pH of the medium on the rate of polymerization in the presence of ammonia

Card 1/2

was also studied and it was shown that the activating effect of ammonia depended on the pH-value. When the influence of $FeSO_4$ was being determined it was found that the presence of this substance reduced the rate of polymerization. The proposed redox system is effective even in the absence of salts of fatty acids. A comparison of the copolymerization kinetics of divinyl (I) with styrene (II) in the presence of an ammonia-sugar, iron-sugar or hydroquinone-sulfite redox system showed that these substances were practically equivalent as far as their activating influence was concerned. A formula for the polymerization of mixtures I and II (parts by weight) was worked out on the basis of the new redox system: I 70, II 30, H_2O 200, Nekal BXG 3, NH_3 0.06, glucose 1.0, sodium pyrophosphate 0.06, isopropylbenzene hydroperoxide (containing 86% hydroperoxide) 0.3, di-isopropylxanthogene disulfide 0.1. Reaction time of polymerization at +5°C 20 hrs. [Abstracter's note: Complete translation.]

S/190/62/004/001/015/020
B110/B101

AUTHORS: Vinogradov, P. A., Odintsova, P. P. (Deceased), Shitova, A. A.

TITLE: Effect of the nature of emulsifiers upon the polymerization rate of styrene and the decomposition of peroxides

PERIODICAL: Vysokomolekulyarnyye soyedineniya, v. 4, no. 1, 1962, 98 - 104

TEXT: The effect of the bases used for saponification of fatty acids upon the colloidal solubility of styrene (A) in soap solution, and the effect of commercial emulsifiers upon the polymerization rate of styrene and the decomposition of some peroxide initiators are discussed. Colloidal solubility (CS) in emulsifier solutions was refractometrically determined at 20°C according to A. I. Yurzhenko (Ref. 1: Zh. obshch. khimii, 16, 117 (1946). The following emulsifiers were used: (1) Potassium oleate of oleic acid and 0.16 g-equivalent/liter K_2CO_3. (2) potassium oleate of oleic acid with KOH. (3) ammonium oleate (0.02 g-equivalent/liter of free NH_3) (4) Nekal with 99% sodium dibutyl-naphthalene sulfonate and

Card 1/3

S/190/62/004/001/015/020
B110/B101

Effect of the nature of ...

0.005 g equivalent/liter of free KOH; (5) rosin soap obtained from hydrogenated colophony and 0.004 g-equivalent/liter of KOH. The pH value was adjusted to 10 - 11 by means of free alkali. Maximum increase of CS with the emulsifier concentration was found for 1 and 3. CS of A in 5% K oleate obtained from KOH is 2.5%, that in K oleate obtained from K_2CO_3 is 12.5%. CS of A does not affect the polymerization rate. Contrary to a statement by A. I. Yurzhenko (Ref. 1), pH does not affect CS of A. The decomposition rate of isopropyl benzene hydroperoxide (B), benzoyl peroxide (C), and potassium persulfate (D) was iodometrically investigated at 70°C in a water xylene emulsion under exclusion of air. A regular dependence of the stability of peroxides on the nature of emulsifiers could not be found. B had maximum stability followed by D and C. For 1, 2 and 4, no decomposition of B was found. The effect of emulsifiers upon the polymerization rate was studied in an N_2 medium at 60°C in the presence of 0.2 parts by weight (of styrene) of B or equimolecular quantities of other initiators, and 5% aqueous emulsifier solution at pH = 10 - 11. The ratio A:H$_2$O was 1:2.5 (with respect to weight). The polymerization rate

Card 2/3

was found to be independent of the nature of emulsifier and the CS of the monomer. Since no decomposition of B in potassium oleate and Nekal at normal polymerization rate was found, polymerization is probably caused by few free radicals not determinable by analysis. There are 4 figures, 4 tables, and 6 references: 5 Soviet and 1 non-Soviet. The reference to English-language publications reads as follows: W. Harkins, J. Amer. Chem. Soc., 59, 1428, 1947; J. Polymer Sci., 5, 217, 1950.

SUBMITTED: February 3, 1961

BROUN, M.Ya., kand.tekhn.nauk; SHITOVA, A.Ye., inzh.

Contactless electric moisture meters. Der.prom. 8 no.2:9-10 F '59. (MIRA 12:2)

1. L'vovskiy lesotekhnicheskiy institut.
(Moisture--Measurement)

SHITOVA, A.Ye.; KARDOPOL'TSEVA, A.A.

Intensification of systems for drying beech boards. Der.prom. 9 no.7:9 Jl '60. (MIRA 13:7)
(Lumber--Drying)

SHITOVA, A.Ye.; SKRIPINETS, G.M.

Drying of beech wood. Bum.i der.prom. no.1:45-47 Ja-Mr '62. (MIRA 15:5)

1. L'vovskiy lesotekhnicheskiy institut (for Shitova).
2. Chinadiyevskiy domostroitel'nyy fanernyy kombinat (for Skripinets).

(Beech--Drying)

SHITOVA, A.Ye.

Effect of temperature increase in the drying of birch wood on its physicomechanical properties. Der.prom. 11 no.4:13-14 Ap '62. (MIRA 15:4)

1. L'vovskiy lesotekhnicheskiy institut.
(Birch--Drying)

OKSANICH, E.Ya.; SHITOVA, A.Ye.

Efficiency of forced drying systems in the enterprises under Stanislav Economic Council. Bum.i der.prom. no.4:41-44 O-D '62. (MIRA 15:12)

1. L'vovskiy lesotekhnicheskiy institut.
(Stanislav Economic Region--Lumber--Drying)

SHITOVA, A.Ye.

Forced process of drying in lumber kilns of continuous operation. Bum. i der. prom. no.1:47-49 Ja-Mr '63. (MIRA 16:7)

1. L'vovskiy lesotekhnicheskiy institut.
(Lumber--Drying)

SHITOVA, A.Ye.

Problems in the aerodynamics of ejector-type drying chambers. Bum. i der. prom. no.3:28-31 Jl-S '63. (MIRA 17:2)

1. L'vovskiy lesotekhnicheskiy institut.

CHITOVA, A.I.; KOROV, N.V., red.

[Intensifying the processes of drying beech timber for furniture manufacture] Intensifikatsiia protsessov sushki bukovykh zagotovok dlia mebel'nogo proizvodstva. Moskva, TSentr. nauchno-issl. in-t informatsii i tekhniko-ekon. issledovanii p. lesnoi, tsellyulozno-bumazhnoi, derevo-obrabatyvaiushchei promyshl. i lesnomu khoz., 1964. 17 p. (MIRA 18:4)

SHITOVA, A.Ye.

Forcing the process of drying parquet rough stock. Bum. i der. prom. no.1:36-38 Ja-Mr '65. (MIRA 18:10)

SHITOVA, L.A.

Map compilation of the quality of coals according to the degree of their metamorphism and petrographic composition. Mat. Tem. kom. no.1:89-91 '61. (MIRA 17:2)

1. Zapadno-Sibirskoye geologicheskoye upravleniye.

SIMONOV, M.Z., doktor tekhn. nauk, prof., red.; BUZHEVICH, G.A., kand. tekhn. nauk, red.; SHITOVA, L.N., red.

[Instructions for manufacturing elements from lightweight concrete using natural porous aggregates] Instruktsiia po izgotovleniiu izdelii iz legkikh betonov na estestvennykh poristykh zapolniteliakh. Moskva, Gosstroiizdat, 1963. (MIRA 16:10)
86 p.
1. Armenian S.S.R. Gosudarstvennyy komitet po delam stroitel'stva.

(Aggregates (Building materials))

DVORIN, Roman Semenovich; GUREVICH, M.S., nauchn. red.;
SHITOVA, L.N., red.

[Planning of assembling and special construction operations] Planirovanie montazhnykh i spetsial'nykh stroitel'nykh rabot. Moskva, Stroiizdat, 1964. 120 p.
(MIRA 17:5)

SHITOVA, M. N., Cand Med Sci -- "Immediate and remote results of the direct removable dental prosthesis. (Clinical morphological study)." Kazan', 1961. (Min of Health RSFSR. Kazan'State Med Inst) (KL, 8-61, 266)

67761

SOV/126-8-5-14/29

18.7500

AUTHORS: Zelinskiy, M.S., Noskov, B.M., Pavlov, P.V., and Shitova, E.V.

TITLE: Influence of Vanadium Additions on the Self-Diffusion of Iron

PERIODICAL: Fizika metallov i metallovedeniye, 1959, Vol 8, Nr 5, pp 725-730 (USSR)

ABSTRACT: In contrast to the effect of many other transition elements, vanadium has been found to give a weaker atomic bonding than occurs in pure iron (Refs 6, 7). Since for other metals results of diffusion and X-ray investigations agree, the authors decided to study the self-diffusion of iron with respect to vanadium content. Although this had already been studied, work by Sanadze and Tsivtsivadze (Ref 8) has thrown doubt on some previous results (Refs 4, 5, 9). The present authors used three Fe-V (0.48, 1.01 and 2.04% V) and two Fe-V-C (0.096, 2.46% V and 0.820, 0.25% C, respectively) alloys (compositions shown in Table 1). 5 x 8 x 25 mm plane parallel specimens were subjected to homogenizing annealing at 1100 °C for 20 hours. A thickness of about 0.005 mm of radioactive Fe^{59} was electrodeposited on one face. Pairs of specimens with

Card 1/3

67761

SOV/126-8-5-14/29

Influence of Vanadium Additions on the Self-Diffusion of Iron

their active faces in contact were subjected to isothermal diffusion annealing for 4-200 hours in a quartz tube evacuated to 10^{-3} mm Hg. Temperature (900-1300 and 1100-1340 for the Fe-V and Fe-V-C alloys, respectively) was controlled to ± 5 °C. After annealing specimens were rapidly quenched and the self-diffusion coefficients determined by removing layers and measuring the integral residual gamma-activity of the remainder of the specimen (Ref 10), with precautions to avoid end effects. Two to four independent determinations were made at each temperature. From the break at 1100 °C on the curve of log D vs inverse of absolute temperature it was deduced that below this temperature inter-crystallite diffusion plays a big part. Results above 1100 °C referred to uniform diffusion and were used in calculating the coefficients: these and other diffusion parameters are shown in Table 2. In Table 3 the corresponding data for inter-crystallite diffusion calculated by Fisher's formula (Ref 11) are given for the Fe-V alloys. The linear relation between the logarithm of the uniform diffusion coefficient and

Card 2/3

GREBENSHCHIKOV, R.G.; TOROPOV, N.A.; SHITOVA, V.I.

Crystal phases of the system barium oxide - germanium dioxide. Dokl. AN SSSR 153 no.4:842-844 D '63. (MIRA 17:1)

1. Institut khimii silikatov im. I.V. Grebenshchikova AN SSSR. 2. Chlen-korrespondent AN SSSR (for Toropov).

L 34303-65 EWP(e)/EPA(s)-2/EWT(m)/EPF(n)-2/EPA(w)-2/EWP(t)/EWP(b) -PAb-10/Pt-10/
Pu-4 IJP(c) JD/WH

ACCESSION NR: AP5007618 S/0363/65/001/001/0121/0125

AUTHOR: Grebenshchikov, R. G.; Toropov, N. A.; Shitova, V. I.

TITLE: Solid solutions in the barium silicate - barium germanate system

SOURCE: AN SSSR. Izvestiya. Neorganicheskiye materialy, v. 1, no. 1, 1965, 121-125

TOPIC TAGS: silicate, germanate, barium silicate, solid solution, barium germanate, phase diagram, xray diffraction, molecular refraction

ABSTRACT: The formation of solid solutions in the system barium silicate - barium germanate and the physical parameters of this system were determined experimentally in order to clarify the properties of this system, which is used in preparing fire-resistant materials, ceramics, in the cement industry and for producing thermocathodes and luminiscent compounds. The system was studied over the full range of compositions by X-ray diffraction, thermal analysis and determination of molecular refraction, refractive index and density. All systems melted in the interval 1850-2220C, 2050 and 1830C being the melting points of pure barium silicate and germanate, respectively. Solid solutions of similar structures were

Card 1/3

L 34303-65

ACCESSION NR: AP5007618

shown to be formed, with a region of immiscibility at 50-60 mole% Ba_2GeO_4, shown particularly by the discontinuity of molecular refraction. A maximum in the thermogram of the Liquidus at 2200C corresponded to the solid solution with 95 mole% Ba_2SiO_4, and a peritectic was measured at 1970C (see Fig.1 of the Enclosure). Orig. art. has: 3 figures and 2 tables.

ASSOCIATION: Institut khimii silikatov im. I. V. Grebenshchikova AN SSSR (Silicate chemistry institute, AN SSSR)

SUBMITTED: 10Apr64 ENCL: 01 SUB CODE: IC, MT

NO REF SOV: 009 OTHER: 005

Card 2/3

L 1456-66 EWT(m)/T/EWP(t)/EWP(b)/EWA(c) IJP(c) JD/JG

ACCESSION NR: AP5022265 UR/0363/65/001/007/1130/1142 41
546.431+546.289 40
B

AUTHOR: Grebenshchikov, R. G.; Toropov, N. A.; Shitova, V. I.

TITLE: Some aspects of the analogy between the crystal chemistry of germanates and titanates, silicates, and fluoberyllates, and the system barium oxide-germanium dioxide

SOURCE: AN SSSR. Izvestiya. Neorganicheskiye materialy, v. 1, no. 7, 1965, 1130-1142

TOPIC TAGS: germanium 27 compound, barium 27 oxide, barium compound, fluorine compound, 47 beryllium compound, rubidium compound, lead oxide, titanium oxide, silicate, barium titanate

ABSTRACT: In a study of the phase 18 diagram of the system $BaO-GeO_2$, use was made of thermal, x-ray diffraction, microscopic, and crystal optical analyses. The system is found to have six chemical compounds with $BaO:GeO_2$ ratios equal to 3:1, 2:1, 3:2, 1:1, 1:4, and 1:19; three of these compounds were obtained for the first time: Ba_3GeO_5, $Ba_3Ge_2O_7$, and $BaGe_{19}O_{39}$. An approximate scheme of the polymorphism of tribarium germanate is proposed:

Card 1/2

L 1456-66

ACCESSION NR: AP5022265

$$\gamma \underset{}{\overset{160^\circ C}{\rightleftharpoons}} \gamma' \overset{470^\circ C}{\rightleftharpoons} \beta \overset{685^\circ C}{\rightleftharpoons} \beta' \overset{755^\circ C}{\rightleftharpoons} \sigma \overset{\sim 950^\circ C}{\rightleftharpoons} \varkappa \overset{1465^\circ C}{\rightleftharpoons} \alpha \overset{1725^\circ C}{\rightleftharpoons} \varkappa l$$

The interplanar distances and refractive indexes of all the germanates studied and their polymorphous modifications are tabulated. A discussion of the crystal chemical analogy of barium germanates with fluoberyllates, silicates, titanosilicates, and titanates is given in which the systems $RbF-BeF_2$, $PbO-SiO_2$, $PbO-GeO_2$, $BaO-SiO_2$, $BaO-GeO_2$, and $BaO-TiO_2$ are compared. Orig. art. has: 6 figures and 5 tables.

ASSOCIATION: Institut khimii silikatov im. I. V. Grebenshchikova Akademii nauk SSSR (Institute of Silicate Chemistry, Academy of Sciences, SSSR)

SUBMITTED: 29Mar65 ENCL: 00 SUB CODE: IC, SS

NO REF SOV: 007 OTHER: 013

Card 2/2

S/196/61/000/012/026/029
E194/E155

AUTHORS: Shitova, V.M., Slepushkin, V.I., and Shal'man, Z.M.

TITLE: An investigation of automatic control systems and sources of supply for electric-spark cutting of metals with a disc electrode

PERIODICAL: Referativnyy zhurnal, Elektrotekhnika i energetika, no.12, 1961, 41, abstract 12K 236. (In the Symposium "Problems of Electrical Machining of Materials", M., AS USSR, 1960, 188-214)

TEXT: A procedure is given for analysing automatic control systems for electric-spark cutting. Results of a study of the automatic control systems are used to develop a procedure for calculating controller parameters. A comparison is made between a number of supply circuits considered as components of automatic control systems. Practical recommendations are given concerning the selection of supply and controller circuits.

[Abstractor's note: Complete translation.]

Card 1/1

VOL'FSON, N.S.; SHITOVA, Ye.I.; LIVSHITS, B.L., kand. fiz.-mat. nauk, otv. red.

[Optical masers (lasers); bibliographic index of Soviet and foreign literature for the period 1958 to June 1963] Kvantovye opticheskie generatory (lazery); bibliograficheskii ukazatel' otechestvennoi i zarubezhnoi literatury s 1958 po iiun' 1963 g. Moskva, Izd-vo "Nauka," 1964. 175 p. (MIRA 17:8)

1. Akademiya nauk SSSR. Sektor seti spetsial'nykh bibliotek.

SHITOVA, Ye.M.

Direct results and long-range consequences of forceps delivery for the child. Vop.okh.mat. i det. 4 no.2:53-57 Mr-Ap '59. (MIRA 12:5)

1. Iz rodil'nogo doma No.7 (glavnyy vrach V.I.Kuksenkova, nauchnyy rukovoditel' - prof. G.K.Cherepakhin), g.Gor'kiy.
(BIRTH INJURIES)

CHITOVA, Ye.M., kand.med.nauk; BUNDINA, M.Ya. (Gor'kiy)

Obstetrical and gynecological service and the prophylactic examination of female workers at the Gorkiy Automobile Factory. Sov.zdrav. 21 no.12:10-12 '62. (MIRA 15:12)

1. Nauchnyy rukovoditel' - zaveduyushchiy kafedroy akusherstva i ginekologii lechebnogo fakul'teta Gor'kovskogo meditsinskogo instituta imeni S.M.Kirova, zasluzhennyy deyatel' nauk RSFSR prof. G.K.Cherepakhin. 2. Zaveduyushchaya zhenskoy konsul'tatsiyey mediko-sanitarnoy chasti Gor'kovskogo avtomobil'nogo zavoda (for Bundina).

(GORKIY--LABOR AND LABORING CLASSES--MEDICAL EXAMINATIONS)

SHITOVA, Z. I.

USSR/Human and Animal Physiology - Neuro-Muscular Physiology. R-11

Abs Jour : Referat Zhur - Biol., No 16, 1957, 71 285

Author : Shitova, Z.I.
Title : Metabolic changes in Mouse Tissue in the Combined Action of Large Radon Doses and Steady Current (Intensity of Oxygenation)

Orig Pub : V sb. Vopr. radiobiologii, L. 1956, 51-58

Abstract : By irradiation with Rn of the isolated calf muscle of the frog, and by polarizing the other, their oxygen consumption was changed in the course of 5-7 hrs at temp. 20-22°C. Under the influence of cathode current in normal muscles the oxygenation rose on the average 34%, and in the irradiated (activity 0.4-0.8 m. curies)- on the average by 45%. In two days, the difference in utilization of O_2 increased even more. The cathode influence on oxidation processes in the muscle was summary with the action of irradiation. Anode current of threshold strength

Card 1/2 - 64 -

USSR/Human and Animal Physiology - Neuro-Muscular Physiology. R-11

Abs Jour : Referat Zhur - Biol., No 16, 1957, 71085

(20-30 y a), acting for 1 hr, did not increase the breathing substantially (maximally by 18%). By applying a larger current (50-90 m a) the breathing was immediately decreased on the aver. by 18%. Under the action of anode simultaneously with irradiation the lowering of oxidation process was observed more frequently (aver. 34%).

Card 2/2

SHITOVA, Z. I

69

PHASE I BOOK EXPLOITATION SOV/5435

Kiselev, P. N., Professor, G. A. Gusterin, and A. I. Strashinin, Eds.

Voprosy radiobiologii. t. III: Sbornik trudov, posvyashchennyy 60-letiyu so dnya rozhdeniya Professora M. N. Pobedinskogo (Problems in Radiation Biology. v. 3: A Collection of Works Dedicated to the Sixtieth Birthday of Professor M[ikhail] N[ikolayevich] Pobedinskiy [Doctor of Medicine]) Leningrad. Tsentr. n-issl. in-t med. radiologii M-va zdravookhrananiya SSSR, 1960. 422 p. 1,500 copies printed.

Tech. Ed.: P. S. Peleshuk.

PURPOSE: This collection of articles is intended for radiobiologists.

COVERAGE: The book contains 49 articles dealing with pathogenesis, prophylaxis, and therapy of radiation diseases. Individual articles describe investigations of the biological effects of radiation carried out by workers of the Central Scientific Research Institute for Medical Radiology of the Ministry of Public Health, USSR. [Tsentral'nyy nauchno-issledovatel'skiy institut meditsinskoy radiologii Ministerstva zdravookhraneniya SSSR] during 1958-59. The following

Card 1/10

Problems in Radiation Biology (Cont.) SOV/5435

topics are covered: various aspects of primary effects of radiation; the course of some metabolic processes in animals subjected to ionizing radiation; reactions in irradiated organisms; morphologic changes in radiation disease; and reparation and regeneration of tissues injured by irradiation. Some articles give attention to the effectiveness of experimental medical treatments. No personalities are mentioned. References accompany almost all of the articles.

TABLE OF CONTENTS:

Card 2/10

6

SHITS, K.L.

Latvian S.S.R. Prom.koop. no.1:14 Ja '57. (MIRA 10:4)

1. Predsedatel' pravleniya Latpromsoveta.
(Latvia--Cooperative societies)

Secondary [illegible] of ampholytic ionites and the possi-

[illegible]

gated [illegible] of which not more than [illegible] The [illegible] The acid form was washed with 5% NaOH, and AgNO₃ was filtered through it at 2 l./min.; 0.0995 N for 8 cycles and [illegible] N for [illegible] cycles. At the end of each cycle, filtration of [illegible] mm. [illegible] g. [illegible] The adsorptive capacity of the resin decreased with each cycle, but it was not exhausted at the end of the 22nd cycle, having adsorbed [illegible] of Ag, visible as cryst. metallic. After 4 cycles [illegible] with "resting" periods from 3 hrs. to 3 days between cycles, the resin was washed with 5% [illegible] in the acid form $H_2SO_4NH_4Cl$, and [illegible] was [illegible] After burning the resin, 0.0[illegible]0 g. Na and [illegible] g. Ag were recovered (dry wt. of resin 5 g.).

1. Bibliography [illegible]

Shiro, I.A.

Apparatus for determining the surface tension of liquids by the drop count method. Zhur.fiz.khim. 39 no.7:1792-1794 Jl '65. (MIRA 18:8)

1. Institut fizicheskoy khimii AN SSSR.

SHTUKOVSKAYA, L.A.; LUKINA, M.P.; SHITS, L.A.

Hygienic evaluation of water demineralized by Russian. Gig. i san. 25 no. 12:93-95 D '60. (MIRA 14:2)

1. Iz Moskovskogo nauchno-issledovatel'skogo instituta sanitarii i gigiyeny imeni F.F. Erismana Ministerstva zdravookhraneniya RSFSR i Nauchno-issledovatel'skogo instituta plasticheskikh mass.

(SALINE WATERS--DEMINERALIZATION)
(ION-EXCHANGING SUBSTANCES)

SHITS, L.A.; ALEKSANDROVA, Ye.M.

Evaluation of the aggregate stability of synthetic latexes. Dokl. AN SSSR 142 no.2:413-415 Ja '62. (MIRA 15:2)

1. Moskovskiy khimiko-tekhnologicheskiy institut im. D.I. Mendeleyeva. Predstavleno akademikom P.A.Rebinderom. (Latex)

ALEKSANDROVA, Ye.M.; SHITS, L.A.; LOBACHEVA, S.P.

Effect of certain factors on the aggregative stability of polysterene latex. Lakokras.mat.i ikh prim. no.2:31-34 '62. (MIRA 15:5)

(Latex--Testing)

SHITS, L.A.; TRAPEZNIKOV, A.A.

Structure-mechanical properties of the adsorption layers of some surface-active compounds at the interfacial boundaries of their aqueous solutions with air and styrene. Koll.zhur. 25 no.5:613-620 S-O '63. (MIRA 16:10)

1. Institut fizicheskoy khimii AN SSSR i Moskovskiy khimiko-tekhnologicheskiy institut.

S/020/63/148/003/034/037
B101/B186

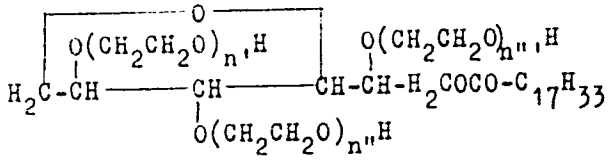
AUTHORS: Aleksandrova, Ye. M., Shits, L. A., Romm, I. P.

TITLE: Effect of non-ionogenic, surface-active substances on the aggregative stability of polystyrol latex stabilized by sodium oleate

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 148, no. 3, 1963, 637 - 640

TEXT: The study deals with the change in stability of polystyrol latex stabilized by 0.6 parts by weight of sodium oleate per 100 parts of monomer with addition of the following surface-active substances (SAS): ОП-7 (OP-7), $R-C_6H_4(R')-O(CH_2CH_2O)_nH$, R = C_{8-10}, R' = R or H, n≈7, mean molecular weight (MW) = 531, dipole moment D = 3.50; ОП-10 (OP-10), ditto, n≈10, MW = 563, D = 4.41; ОП-20 (OP-20), ditto, n≈20, MW = 1125, D = 5.36; ОС-20 (OS-20), $R{\cdot}O(CH_2CH_2O)_nH$, R = C_{16-18}, n≈20, MW = 1185, D = 5.66; dispersing agent ТВ-80 (TV-80),

Card 1/3



$n' + n'' + n''' \approx 20$, MW = 1308, D = 5.87. The SAS were added either to a latex not saturated with sodium oleate or to a latex that contained an amount of sodium oleate such that its adsorption shells were fully occupied. The stability of latex was determined by measuring the time τ after which coagulation set in between two coaxial cylinders during mixing. $S' = \tau/\tau_0$ was calculated, where τ_0 is the coagulation time without SAS. With saturated latex, the SAS effected a sharp increase of S', even with admixtures of only ~0.02 mg-equ/g. With unsaturated latex, S' first fell stepwise; then it increased slowly with small additions, and sharply with large additions (0.06 - 0.12 mg-equ/g). As to their destabilizing effect, the SAS constitute the following order: TV-80 > OS-20 > OP-20 > OP-10 > OP-7. In unsaturated latex, the SAS screens off the sodium oleate molecules or ions, thus deteriorating the protective effect of the monolayer. Further addition

of SAS effects brittleness of the monolayer, causing the second drop of S'. Not before a polymolecular adsorption layer has formed, S' increases; in saturated latex, S' rises immediately. There are 2 figures and 1 table. The English-language reference is: R. J. Orr, Rubber and Plast. Age, 41, no. 9, 971, 1027 (1960).

ASSOCIATION: Moskovskiy khimiko-tekhnologicheskiy institut im. D. I. Mendeleyeva (Moscow Institute of Chemical Technology imeni D. I. Mendeleyev)

PRESENTED: October 3, 1962, by P. A. Rebinder, Academician

SUBMITTED: September 10, 1962

ALEKSANDROVA, Ye. M.; SHITS, L. A.

Structure of the protective adsorption films of synthetic latexes stabilized by sodium oleate. Koll. zhur. 24 no.6: 641-642 N-D '62. (MIRA 16:1)

1. Moskovskiy khimiko-tekhnologicheskiy institut imeni D. I. Mendeleyeva.

(Rubber, Synthetic) (Protective coatings)
(Sodium oleate)

SHITS, L.A.

Some considerations on micelle formation in solutions of soaps. Koll. zhur. 26 no.3:397-398 My-Je '64. (MIRA 17:9)

1. Institut fizicheskoy khimii AN SSSR, Moskva.

PALEYEVA, Yevdokiya (g.Nakhodka); LESKOV, S.; SHITS, O. (s.Nizhnyaya Omra, Komi ASSR)

Readers reply to Valia Mitiukova. Obshchestv.pit. no.4:30-31 Ap '61. (MIRA 14:3)

1. Zaveduyushchiy proizvodstvom stolovoy No.27, g.Khabarovsk (for Leskov).

(Cooking schools)

KISELEV, Ya.; KAPUSTIN, K. (Chelyabinsk); SPITS, O., tekhnolog (Komi ASSR); RADZHABLI, A. (Kirovabad)

Letters to the editor. Obshchestv. pit. no.6:40-41 Je '62. (MIRA 15:9)

(Restaurants, lunchrooms, etc.)

SHIPOV, V.P.; SHITSER, S.S., retsenzent; BEREZOVSKIY, A.I., retsenzent; VASIL'YEVA, G.N., redaktor; KISINA, Ye.I., tekhnicheskiy redaktor.

[Planning work in enterprises of the meat industry; methods and techniques in working out a plan] Planirovanie truda na predpriiatiiakh miasnoi promyshlenosti; metodika i tekhnika raschetov plana. Moskva, Pishchepromizdat, 1956. 73 p. (MIRA 9:5)
(Meat industry)

ZHILENKO, R.M., inzhener; SHITSKOV, V.S., inzhener.

The BK-215 self mounting portable crane. Nov.tekh.i pered. op. stroi. 18 no.4:14-17 Ap '56. (MIRA 9:7)
(Cranes, derricks, etc.)

SHITSKOVA, A. P.

SHITSKOVA, A. P. -- "Investigation and Hygienic Evaluation of Ice Cream." Sub 7 Oct 52, Central Inst for the Advanced Training of Physicians (Dissertation for the Degree of Candidate in Medical Sciences.)

SO: Vechernaya Moskva January-December 1952

1. SHITSKOVA, A. P.

2. USSR (600)

4. Hygiene-Societies, Etc.

7. Scientific session of the Institutes of Hygiene and the Departments of Hygiene of Medical Institutes of the R. S. F. S. R. Gig. i san. Vol 17 no. 10, 1952.

9. Monthly List of Russian Accessions, Library of Congress, February 1953, Unclassified.

SHITSKOVA, A.P.

Evaluation of ice cream from the point of sanitation and hygiene.
Gig.i san. no.1:39-43 Ja '54. (MLRA 6:12)

1. Iz Nauchno-issledovatel'skogo sanitarnogo instituta im. Erismana.
(Ice cream, ices, etc.)

SHITSKOVA, A.P.

Hygienic conditions of the workers' milk supply at Moscow's industrial enterprises. Vop.pit. 13 no.1:44 Ja-F '54. (MLRA 7:1)

1. Iz Nauchno-issledovatel'skogo sanitarnogo instituta im. F.F.Erismana. (Milk)

3097. ROLE OF CERTAIN VEGETABLES IN MINERAL METABOLISM OF CHILDREN (Russian text) - Shitskova A.P., Gnoevaya V.L., Kalinina K.A. and Myshevskaya M.I. Food Hyg. Dept., Erisman Sanit. Sci. Res. Inst., Moscow - VOPR. PIT. 1958, 17/1 (54-58)

Data are set forth on investigations into the metabolism of Ca, P, Mg and N in children who received a food ration with predominance of groats and a ration with partial replacement of groats by carrot or sauerkraut. The caloric value of the rations amounted to 2,200 cal. on the average. The metabolism was studied in four 9- to 10-year-old boys. During the period of the metabolism study (10-11 days), the children received 4 sorts of diet. It was found that inclusion of carrot and sauerkraut in the child nutrition ration with corresponding reduction in the quantity of groats somewhat increases the balance of N, Ca, and P. The highest balance of N and mineral substances (Ca, P, Mg was observed in children who had received a ration with carrot.

Krymskii - Moscow (S)

SHITSKOVA, A.P., kand. med. nauk; KALININA, K.A., kand. khim. nauk

Influence of ultraviolet irradiation on mineral and nitrogen metabolism in adolescents. Gig. i san. 23 no.11:37-43 N '58 (MIRA 12:8)

1. Iz otdela pishchevoy gigiyeny Moskovskogo nauchno-issledovatel'skogo instituta sanitarii i gigiyeny imeni F. F. Erismana Ministerstva zdravookhraneniya RSFSR.
(ULTRAVIOLET RAYS—PHYSIOLOGICAL EFFECT)
(METABOLISM) (MINERALS IN THE BODY)

"Effect of vegetables, D-vitaminization, and ultraviolet irradiation on the metabolism of nitrogen and mineral elements in children and adolescents."

Report presented at the 12th All-Union Congress of Hygienists, Epidemiologists and Infectiologists, 1957.

SHITSKOVA, A.P.

Hygienic evaluation and proper management of nutrition in boarding schools. Uch. zap. Mosk. nauch.-issl. inst.san. i gig. no.2:46-49 '59 (MIRA 16:11)

1. Moskovskiy nauchno-issledovatel'skiy institut sanitarii i gigiyeny imeni F.F.Erismana.

SHITSKOVA, A.P., kand.meditsinskikh nauk

Diet and energy exchange in children in boarding schools. Gig. i san. 25 no.4:41047 Ap '60. (MIRA 13:8)

1. Iz Moskovskogo nauchno-issledovatel'skogo instituta sanitarii i gigiyeny im. F.F. Erismana Ministerstva zdravookhraneniya RSFSR.
(SCHOOL CHILDREN—FOOD) (CALORIMETRY)

SHITSKOVA, A.P.

Results of the working out of hygienic standards in the public health institutes of the R.S.R.S.R. in the 1959-1960 and the present status of their introduction into practice. Biul. Uch. med. sov. 2 no.4:10-17 Jl-Ag '61. (MIRA 14:10)
(PUBLIC HEALTH)

SHITSKOVA, A.P., kand.med.nauk

Eighth Conference of Young Hygienists and Sanitary Workers. Gig. i san. 26 no.5:113-114 My '61. (MIRA 15:4)
(PUBLIC HEALTH)

SHITSKOVA, A.P. (Moskva)

Conference on planning of the directors of hygienic institutes of the R.S.F.S.R. and of the hygienic departments of Moscow medical institutes. Gig. i san. 26 no.6:108-109 Je '61. (MIRA 15:5)
(INDUSTRIAL HYGIENE)

SHITSKOVA, A.P., kand.med.nauk

Public health in Sweden. Gig. i san. 26 no.7:98-102 Jl '61. (MIRA 15:6)

1. Iz Moskovskogo nauchno-issledovatel'skogo instituta gigiyeny imeni F.F. Erismana Ministerstva zdravookhraneniya RSFSR.

(SWEDEN—PUBLIC HEALTH)

SHITSKOVA, A.P., otv. red.; LUK'YANOV, V.S., red.; SHPIL'BERG, P.I., red.

[Problems of occupational pathology] Voprosy profpatologii. Moskva, Mosk. in-t gigieny. 1964. 231 p. (Its: Uchenye zapiski) (MIRA 18:12)

1. Moscow. Nauchno-issledovatel'skiy institut gigiyeny.

SHITSKOVA, A.F., otv. red.; GURVICH, L.S., red.

[Sanitary and chemical control in the field of water reservoir protection] Sanitarno-khimicheskii kontrol' v oblasti okhrany vodoemov. Moskva, 1964. 250 p. (MIRA 18:4)

1. Moscow. Nauchno-issledovatel'skiy institut sanitarii i gigiyeny.

MEL'KUMOVA, A.S., prof.; RUMYANTSEV, G.I., st. nauchn. sotr.; SHITSKOVA, A.P., otv. red.

[Vibration sickness in concreters and measures for its control; manual for occupational disease specialists, neuropathologists, hygienists, and physicians of polyclinics and medical and public health centers] Vibratsionnaia bolezn' betonshchikov i mery bor'by s neiu; posobie dlia profpatologov, nevropatologov, vrachei-gigienistov, vrachei poliklinik i mediko-sanitarnykh chastei. Moskva, Mosk. nauchno-issl. in-t gigieny, 1965. 102 p. (MIRA 18:10)

ROSHCHIN, I.V., dots.; SHITSKOVA, A.P., otv. red.

[Periodical and preliminary medical examinations of workers exposed to the effect of vanadium compounds; a methodological manual] Periodicheskie i predvaritel'nye meditsinskie osmotry rabochikh, podvergaiushchikhsia vozdeistviiu soedinenii vanadiia; metodicheskoe posobie. Moskva, 1964. 18 p. (MIRA 18:12)

1. Moscow. Nauchno-issledovatel'skiy institut gigiyeny.

KACHMAR, Ye.G.; KHRUSTALEVA, V.A.; SHITSKOVA, A.P., otv. red.

[Determination of harmful substances in the air by means of solid granulated sorbents] Opredelenie vrednykh veshchestv v atmosfernom vozdukhe s primeneniem tverdykh zernennykh sorbentov. Moskva, Mosk. in-t gigieny im. F.F. Erismana. No.1. 1964. 35 p. (MIRA 19:1)

SHITSKOVA, V.V., kand. med. nauk; BOLKOVAYA, M.A.

Vacciniform pustulosis in early childhood. Sov. med. 27 no.11:56-60 N '64. (MIRA 18:7)

1. Kafedra gospital'noy pediatrii (ispolnyayushchiy obyazannosti zaveduyushchego - prof. K.F.Sokolova) II Moskovskogo meditsinskogo instituta imeni Pirogova i Detskaya bol'nitsa No.13 imeni Filatova (glavnyy vrach L.A.Vorokhobov), Moskva.

SHITSKOVA, V.V., dotsent

Characteristics of the course of staphylococcal pneumonia in early childhood. Sov. med. 28 no.7:62-67 Jl '64. (MIRA 18:8)

1. Kafedra gospital'noy pediatrii (ispolnyayushchiy obyazannosti zaveduyushchego - prof. K.F.Sokolova) II Moskovskogo meditsinskogo instituta imeni Pirogova na baze detskoy bol'nitsy imeni Filatova (glavnyy vrach I.A.Vorokhobov); Moskva.

SHITSKOVA-MARTYNKINA, V.V., kand.med.nauk, PETROVA, R.F.

Clinical aspects of acute diffuse glomerulonephritis in children. Vop.okh.mat. i det. 3 no.5:11-18 S-O '58 (MIRA 11:11)

1. Iz kafedry gospital'noy pediatrii (zav. - prof. K.F. Popov) II Moskovskogo gosudarstvennogo meditsinskogo instituta imeni N.I. Pirogova i detskoy klinicheskoy bol'nitsy imeni I.V. Rusakova (glavnyy vrach V.A. Kruzhkov, nauchnyy rukovoditel' - prof. M.A. Bubnova).

(KIDNEYS--DISEASES)
(CHILDREN--DISEASES)

SHITSKOVA -MARTYNKINA, V.V., kand.med.nauk

Eosinophil disease in children. Pediatriia no.2:79-83 '62. (MIRA 15:3)

1. Iz kafedry gospital'noy pediatrii (zav. - prof. K.F. Pipov) II Moskovskogo meditsinskogo instituta imeni N.I. Pirogova (dir. - dotsent M.G. Sirotkina).
(EOSINOPHILES) (CHILDREN—DISEASES)

SHITSMAN, A., inzh.

Modernized heating apparatus. Stroitel' no.10:29 O '58. (MIRA 11:11)

(Heating)

ACC NR: AP6021454 SOURCE CODE: UR/0413/66/000/010/0078/0078

INVENTOR: Moskver, K. B.; Zayd, E. G.; Shirokov, S. S.; Shitsman, A. S.; Neusypina, N. I.

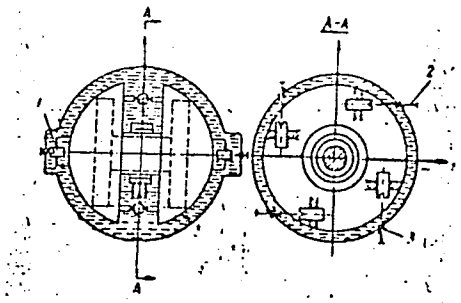
ORG: None

TITLE: A three-way gyroscopic float device. Class 42, No. 182346

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 11, 1966, 78

TOPIC TAGS: gyroscope system, gyroscope suspension

ABSTRACT: This Author's Certificate introduces a three-way gyroscopic float device consisting of a gyro unit fastened to an elastic torsional support and suspended in a liquid. Provision is made for balancing the instrument after final adjustment by equipping the gyro unit with balancing weights which may be moved with respect to its center of gravity along coordinate axies by adjustment wrenches. These wrenches are fastened in the housing of the device by hermetic couplings which permit reciprocating and rotary motion.



SUB CODE: 17/ SUBM DATE: 030ct63

Card 1/1

UDC: 621-752.4

SHITSMAN, M. Ye.

"Investigation of the Effects of Pressure and Vapor Content on the Magnitude of Critical Heat Flow in a Vertical Pipe at Natural Circulation." Sub 14 Jun 51, Power Engineering Inst imeni G. M. Krzhizhanovskiy

Dissertations presented for science and engineering degrees in Moscow during 1951.

SO: Sum. No. 460, 9 May 55

SHITSMAN, M. E.

USSR.

1822. Styrikovich, M. A., and Shitsman, M. E., New data on the temperature variation of boiler tubes at very high pressures (in Russian), *Doklady Akad. Nauk SSSR (N.S.)* 96, 1, 69–72, May 1954.

Authors report on heat-transfer experiments with a vertical boiler tube with natural circulation. Although the parameters governing boiler-tube circulation are not fully understood, valuable information for design at very high pressures has been obtained. It has been assumed erroneously in the past that wall temperatures of boiler tubes only increase above the permissible limit if either the tubes are full of vapor or when circulation is suppressed or reversed. Experiments show that with normal rates of circulation at high pressures, excessive tube-wall temperatures may be obtained even if the dryness fraction of the steam in the tubes is well below unity.

Experimental ranges covered by the authors are: Pressure, 2530–2974 lb/in.^{2}; specific heat flow, 85,000–295,000 Btu/ft^2 hr; circulation velocity, 0.7–7.2 fps; circulation mass velocity, 44,000–295,000 lb/ft^2 hr; dryness fraction, 0.08–1.

Y. R. Mayhew, England

SOV/124-57-3-3203

Translation from: Referativnyy zhurnal. Mekhanika, 1957, Nr 3, p 80 (USSR)

AUTHORS: Styrikovich, M. A., Shitsman, M. Ye.

TITLE: An Investigation of the Temperature Conditions in the Operation of a Vertical Boiling Tube Under Superhigh Pressures (Issledovaniye temperaturnogo rezhima raboty vertikal'noy kipyatil'noy truby pri sverkhvysokikh davleniyakh)

PERIODICAL: V sb.: Gidrodinamika i teploobmen pri kipenii v kotlakh vysokogo davleniya. Moscow, AN SSSR, 1955, pp 206-228

ABSTRACT: The paper adduces the results of an experimental investigation of the temperature regime of a vertical boiling tube 30 mm in diameter. The experiments were conducted on a stand with pressures of 182-209 atm abs, a specific heat flux of 230-720,000 kcal/m^2/hr, circulation velocities from 0.2 to 2.2 m/sec, and gravimetric steam content from 8 to 100%. It is established that a considerable range of intermediate regimes exists within the zone of pressures and circulation parameters investigated, during which regimes, in proportion as the steam content increases, the intensity of the heat transfer gradually decreases from the values corresponding to a

Card 1/2

normal nucleate boiling to the values which correspond to the heat transfer to dry saturated steam. The authors point out that with specific heat fluxes of the order of 400-450,000 kcal/m^2/hr a decrease in the circulation velocity to 0.4-0.5 m/sec and of the circulation multiplicity to 2.0 - 2.5 may lead to damage to the steam pipes of boilers operating at superhigh pressures.

Z. L. Miropol'skiy

Subject : USSR/Power Eng. AID P - 4081

Card 1/1 Pub. 110-a - 6/14

Authors : Styrikovich, M. A., Corr. Memb., Academy of Sciences, USSR, M. E. Shitsman, and Z. L. Miropol'skiy, Kand. Tech. Sci. Power Institute, Academy of Sciences.

Title : Some data on temperature changes in a vertical boiling conduit at near-critical pressures.

Periodical : Teploenergetika, 12, 32-36, D 1955

Abstract : Tests with vertical boiling pipes at different pressures and various flue temperatures are explained. Some temperature changes in the pipe walls were noticed, which seemingly have considerable importance for establishing conditions of normal performance of vaporating-surfaces of super-high pressure boilers. Seven diagrams. Three Russian references, 1951-1952.

Institution : None

Submitted : No date

SHITSMAN, M. YE.

AUTHORS: Miropol'skiy, Z. L., Shitsman, M. Ye. 57-10-23/33

TITLE: Heat Emission to Water and Steam at Variable Heat Capacity (Near the Critical Region) (Teplootdacha k vode i paru pri peremennoy teployemkosti (v okolo-kriticheskoy oblasti)

PERIODICAL: Zhurnal Tekhn. Fiz., 1957, Vol. 27, Nr 10, pp. 2359-2372 (USSR)

ABSTRACT: The results of investigations of the local coefficients of a heat emission to not boiling water and to overheated steam at pressures of from 4 to 28o at are given. In this investigation where the water and the steam moved within a pipe in a turbulent current distribution following was noticed in the regions of sub- and overcritical pressures: 1) The application of the known formula for the computation of the heat emission to not boiling water or to overheated steam cannot give satisfying results for those temperature regions where the values of the Pr- figure change in connection with the variation of the specific heat of the medium. 2) A formula is given here for the computation of the local values of the coefficient of the heat emission to water and steam within the above mentioned limits of the parameter variation. This contains the known figures: Nu, Re, and Pr. The mean current temperature is assumed as the determining temperature for the computation of Nu and Re. In the computation of Pr the determining temperature is assumed to be equal to either the

Card 1/2

MIROPOL'SKIY, Z.L., kand. tekhn. nauk; SHITSMAN, M.Ye., kand. tekhn. nauk.

Methods of calculating heat transfer to water and steam in the near-critical range. Energomashinostroenie 4 no.1:8-11 Ja '58. (Heat--Transmission) (MIRA 11:1)

PHASE I BOOK EXPLOITATION SOV/3407

Akademiya nauk SSSR. Energeticheskiy institut im. G.M. Krzhizhanovskogo

Problemy energetiki; sbornik posvyashchayetsya akademiku G.M. Krzhizhanovskomu (Problems of Power Engineering; Collection of Articles Dedicated to Academician G.M. Krzhizhanovskiy) Moscow, 1959. 851 p. Errata slip inserted. 2,500 copies printed.

Eds. of Publishing House: B.D. Antrushin, F.V. Dubkov, P.I. Zubkov, and S.M. Moyzhes; Tech. Ed.: T.A. Prusakova; Editorial Board: A.V. Vinter, Academician (Deceased), V.I. Popkov (Resp. Ed.) Corresponding Member, Academy of Sciences USSR, V.I. Veyts, A.S. Predvoditelev, M.A. Styrikovich, N.F. Chukhanov, N.B. Bogdanova, Candidate of Technical Sciences, B.K. Kozlov, Candidate of Technical Sciences, M.M. Lebedev, Candidate of Technical Sciences, and I.N. Sundukov.

PURPOSE: This collection of articles is intended as a tribute to the memory of Academician G.M. Krzhizhanovskiy.

COVERAGE: The collection contains sixty articles by former students and coworkers of the deceased Academician. The articles deal with problems of a wide range of subjects in the field of power engineering: problems of the regional development of electrical and thermal power engineering, power engineering technology, and the physics of combustion. No personalities are mentioned. References are given after most articles.

SHITSMAN, M.Ye., kand.tekhn.nauk

Heat transfer to water, oxygen, and carbon dioxide in the almost critical region [with summary in English]. Teploenergetika 6 no.1:68-72 Ja '59. (MIRA 12:1)

1. Energeticheskiy institut AN SSSR.
(Heat--Transmission)

MIROPOL'SKIY, Z.L., kand.tekhn.nauk; SHITSMAN, M.Ye., kand.tekhn.nauk; MOSTINSKIY, I.L., inzh.; STAVROVSKIY, A.A., inzh.

Effect of inlet conditions on the critical thermal flows during the boiling of water in pipes [with summary in English]. Teploenergetika 6 no.1:80-83 Ja '59. (MIRA 12:1)

1. Energeticheskiy institut AN SSSR.
(Steampipes) (Thermodynamics)

STYRIKOVICH, M.A.; MIROPOL'SKIY, Z.L., kand.tekhn.nauk; SHITSMAN, M.Ye., kand.tekhn.nauk; MOSTINSKIY, I.L., inzh.; STAVROVSKIY, A.A., inzh.; FAKTOROVICH, L.Ye., inzh.

Effect of superimposed elements on the setting up of boiling crisis in the s team genera ing pipes. Teploenergetika 7 no.5:81-88 My '60. (MIRA 13:8)

1. Energeticheskiy institut AN SSSR. 2. Chlen-korrespondent AN SSSR (for Styrikovich).
(Heat--Radiation and absorption) (Boilers)